

Biome- large group of ecosystems w/same type climax community	Abiotic Factors (climate, location, landforms)	Biotic Factors (organisms )	Adaptations (of life forms for env.)
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Aquatic- Marine (salt water), Fresh water,	Unusual/differences	Environmental conditions	Plant types	Animal types	Plant adaptations	Animal adaptations
Marine		Density & salinity varies Depth determines light, temp	phytoplankton	zooplankton		
<b>Photic- with light</b>	- Coral reefs	- Warm, shallow seas	Rich in plankton	Fish, sponge, shell fish,		Coral- animal builds on ancestors to make reefs
Estuaries, (& bays)	- Nursery - Partially surrounded by land	Where rivers & oceans meet Brackish water (mix) - changes w/tide	plankton	Fish, birds, shrimp,		
	Marsh Ex. everglades	Brackish water (mix)	Grasses- cord, eelgrasses	Snails, crabs, shrimp, predators, birds	Salt-tolerant plants	Filter feeders,
Shores Intertidal zone- high levels sun, nutrients, oxygen	Rocky-	Tidal pools	Seaweed, algae, phytoplankton	Sea stars, starfish, barnacles, anemones	Seaweed- attach to bottom- away from shore	Animals attach
	Sandy		Seaweed, algae, phytoplankton	Clams, worms, snails, crabs	float	burrow
<b>Aphotic – no light</b>		Complete darkness	NONE	Predators, filter feeders	NONE	Flashlight fish
Freshwater	Shallow-	warm in summer fast flowing = more oxygen	cattails	Tadpoles, aquatic insects, turtles, worms, crayfish, dragonflies, fish		burrowing
	Deep water – stays cold & more dense	Temp affects organisms Depth limits light=limits life Slow decay & recycling due to cold temp	Algae & a few aquatic plants		Few plants-	
	Wetlands	- swamps	Trees- cypress trees & mangrove		Cypress knees	
		Marshes	grasses			
		Bogs- water from rain-water does not flow through				

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Terrestrial Biomes	Unusual/differences	Environmental conditions	Plant types	Animal types	Plant adaptations	Animal adaptations
Tundra	Alpine- mountain Arctic- north pole Permafrost-frozen soil Northern lights 24 hr day/nights	0-10 C Max. 30 inch rain Longest winters	Grass, sedge, shrubs lichens	Insects, virds, wolves, reindeer, caribou Anthing arctic	Short roots	Migration Hibernation Snow camo
Taiga Coniferous forest Boreal	Acidic soil b/c needles	-11 to 16 C Most rain in summer 6-10 month growing season	Larch, firs, pines, spruce, worlds largest trees	Deer, elk, moose, bear, mtn lion, wolf, rabbits, birds	Triangle shape, evergreen deedless, cones	Snow camo, hibernate, migrate, burrow
Temperate Deciduous forest	Soil rich in humus & cla	75-150 cm rain Temp usually above 0C 140-300 day growing season	Oak Maple Hemlock	Deer Birds reptiles	Trees lose leaves	Animals blend in
Tropical rain forest	Soil w/few nutrients Desertification	250-450 cm rain 25 C No seasons	Broadleaf evergreen Strangler fig buttresses	Birds snakes, amphibians monkeys	Eyyphyte- orchid Emergent layer Canopy understory	Bright colors = poison
Grassland	Prairie/Plains	25 cm rain Hot summer/cold winter	grass	Badger Snakes, rabbits, coyotes, birds	Fire- no major affect	burrow Hibernate Migrate
	Tropical Savanna	Largest size & # of herbivores. Dry summer 1 season	Acacia trees grass	Zebra, giraffe, elephants	Plants produce poisons when eaten	Long neck
Desert	Hot day Cold night	Less than 10 cm rain 8-34 C	Cactus Joshua trees	Insects, birds Reptiles camels	No leaves→ needles Stem stores water	Camo, Nocturnal Store water Estivation- heat hibernation

Limiting Factors-

Range of Tolerance

Succession (primary &amp; secondary, pioneer species, climax community)

Affected by latitude &amp; altitude